

1 ABSTRACT OF THE DISCLOSURE
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3 The apparatus of the invention includes an embedded device
4 having program code stored in ROM and an on-board or external RAM
5 for storing modified code segments. The methods of the invention
6 include structuring the ROM-based firmware so that an external
7 RAM-based function is called prior to each potentially modifiable
8 code segment. Prior to modifying the firmware, a dummy function
9 is stored in RAM so that every call to RAM is simply returned to
10 ROM. When a segment of code is to be modified, a replacement is
11 stored in RAM and indexed by the return address of the function
12 call. The system of the present invention is efficient as it uses
13 very little RAM. It does not require ROM-based decision making;
14 and it is not limited to a particular programming language. The
15 system of the invention is most suitable for use in a computer
16 peripheral which communicates with a higher level controller, e.g.
17 a personal computer, from which replacement code can be
18 downloaded.